

AMENDMENTS TO THE CLAIMS:

Claim 1. Cancelled.  
Claim 2. Cancelled.  
Claim 3. Cancelled.  
Claim 4. Cancelled.  
Claim 5. Cancelled.  
Claim 6. Cancelled.  
Claim 7. Cancelled.  
Claim 8. Cancelled.  
Claim 9. Cancelled.  
Claim 10. Cancelled.  
Claim 11. Cancelled.  
Claim 12. Cancelled.  
Claim 13. Cancelled.  
Claim 14. Cancelled.  
Claim 15. Cancelled.  
Claim 16. Cancelled.  
Claim 17. Cancelled.  
Claim 18. Cancelled.  
Claim 19. Cancelled.  
Claim 20. Cancelled.  
Claim 21. Cancelled.  
Claim 22. Cancelled.  
Claim 23. Cancelled.  
Claim 24. Cancelled.  
Claim 25. Cancelled.  
Claim 26. Cancelled.  
Claim 27. Cancelled.  
Claim 28. Cancelled.

Claim 29. Cancelled.

Claim 30. Cancelled.

Claim 31. Cancelled.

Claim 32. Cancelled.

Claim 33. Cancelled.

Claim 34. Cancelled.

Claim 35. Cancelled.

Claim 36. Cancelled.

Claim 37. (newly added) A method for making a semiconductor light source intended to be used for emitting light to illuminate a space used by humans, the method comprising:

fabricating an enclosure, said enclosure being fabricated from a material substantially transparent to white light, and said enclosure having an interior volume,

fabricating at least one heat sink to be located within said enclosure, said heat sink being shaped to facilitate mounting of semiconductor devices thereon, said heat sink being adapted to draw heat away from semiconductor devices mounted on it,

selecting a plurality of semiconductor devices capable of emitting light emitting devices, mounting said semiconductor devices on said heat sink(s),

applying a conversion coating for converting monochromatic light emitted by said chips to white light to the interior of said enclosure.

Claim 38. (newly added) A method as recited in claim 37 further comprising the step of applying a light reflective adhesive between said semiconductor device and a heat sink.

Claim 39. (newly added) A method as recited in claim 37 wherein said semiconductor devices are mounted to said heat sink by use of heat conductive adhesive located between said chip and said heat sink and serving to conduct heat from said chip to said heat sink.

40. (newly added) A method as recited in claim 37 further comprising the step of placing a quantity of light reflective adhesive located between said semiconductor devices and said heat

sink.

41. (newly added) A method as recited in claim 37 wherein said heat sink has an air chamber within it to facilitate air flow and heat dissipation.

42. (newly added) A method as recited in claim 41 wherein said air chamber has a TE cooler on it.

43. (newly added) A method as recited in claim 37 wherein at least one of said semiconductor devices includes

- a substrate on which epitaxial layers are grown,
- a buffer layer located on said substrate, said buffer layer serving to mitigate differences in material properties between said substrate and other epitaxial layers,
- a first cladding layer serving to confine electron movement within the chip, said first cladding layer being adjacent said buffer layer,
- an active layer, said active layer emitting light when electrons jump to a valance state,
- a second cladding layer, said second cladding layer positioned so that said active layer lies between cladding layers, and
- a contact layer on which an electron may be mounted for powering said chip.

44. (newly added) A method as recited in claim 41 further comprising placing a quantity of TE cooler material on the interior of said air chamber.

45. (newly added) A method for making a semiconductor light source comprising the steps of:

- obtaining an enclosure, said enclosure being fabricated from a material substantially transparent to white light,
- obtaining a base to which said enclosure may be mounted,
- obtaining a secondary heat sink suitable for being located within said enclosure, said secondary heat sink being capable of drawing heat from one or more semiconductors devices,

said secondary heat sink having a plurality of panels on it suitable for mounting primary heat sinks thereon, said panels on said secondary heat sink being oriented to facilitate emission of light from the semiconductor light source in desired directions around the semiconductor light source,

- obtaining a plurality of primary heat sinks,
- obtaining a plurality of semiconductor devices,
- mounting at least one semiconductor device on each of said primary heat sinks by use of a light reflective adhesive, and
- mounting said primary heat sinks on said secondary heat sink panels.

46. (newly added) A method as recited in claim 45 wherein said enclosure has a light conversion coating loaded on its interior for convert light emitted by said semiconductor devices to white light.

47. (newly added) A method as recited in claim 45 wherein said heat sink has an air chamber within it to facilitate air flow and heat dissipation.

48. (newly added) A method as recited in claim 47 wherein said air chamber has a TE cooler on it.

49. A method as recited in claim 45 wherein at least one of said semiconductor devices includes

- a substrate on which epitaxial layers are grown,
- a buffer layer located on said substrate, said buffer layer serving to mitigate differences in material properties between said substrate and other epitaxial layers,
- a first cladding layer serving to confine electron movement within the chip, said first cladding layer being adjacent said buffer layer,
- an active layer, said active layer emitting light when electrons jump to a valance state,

and

- a second cladding layer, said second cladding layer positioned so that said active layer

lies between cladding layers.

50. (newly added) A method for making a semiconductor light source comprising the steps of:

- obtaining an enclosure,
- obtaining a heat sink suitable for being located within said enclosure, said heat sink being capable of drawing heat from one or more semiconductor devices,
- obtaining a plurality of light-emitting semiconductor devices, and
- mounting said semiconductor devices on said heat sink by use of a light reflective adhesive.

51. (newly added) A method for making a semiconductor light source comprising the steps of:

- obtaining an enclosure,
- obtaining a heat sink suitable for being located within said enclosure, said heat sink being capable of drawing heat from one or more semiconductor devices,
- said heat sink having an air chamber within its interior through which air may flow in order to facilitate heat dissipation,
- obtaining a plurality of light-emitting semiconductor devices, and
- mounting said semiconductor devices on said heat sink.

52. (newly added) A method as recited in claim 51 wherein said enclosure has a light conversion coating located on its interior for convert light emitted by said semiconductor devices to white light.

53. (newly added) A method as recited in claim 51 wherein said air chamber has a TE cooler on it to facilitate cooling said heat sink.

54. (newly added) A method as recited in claim 51 wherein at least one of said semiconductor devices includes

a substrate on which epitaxial layers are grown,  
a buffer layer located on said substrate, said buffer layer serving to mitigate differences in material properties between said substrate and other epitaxial layers,  
a first cladding layer serving to confine electron movement within the chip, said first cladding layer being adjacent said buffer layer,  
an active layer, said active layer emitting light when electrons jump to a valance state,  
and  
a second cladding layer, said second cladding layer positioned so that said active layer lies between cladding layers.

55. (newly added) A method as recited in claim 51 further comprising the step of applying a light conversion coating to the interior of said enclosure, said coating being capable of converting monochromatic light to white light.

56. (newly added) A method for making a semiconductor light source comprising the steps of:

obtaining an enclosure,  
applying a conversion coating to the interior of said enclosure, said conversion coating being capable of converting a monochromatic light to white light,  
obtaining a heat sink suitable for being located within said enclosure, said heat sink being capable of drawing heat from one or more semiconductor devices,  
said heat sink having an air chamber within its interior through which air may flow in order to facilitate heat dissipation,  
obtaining a plurality of light-emitting semiconductor devices, and  
mounting said light-emitting semiconductors to said heat sink by use of a light-reflective adhesive.

57. (newly added) A method for making a semiconductor light source comprising the steps of:

obtaining a secondary heat sink suitable for being located within said enclosure, said

secondary heat sink being capable of drawing heat from one or more semiconductor devices,  
said secondary heat sink having an air chamber within its interior through which air may flow in order to facilitate heat dissipation,  
obtaining a plurality of primary heat sinks,  
obtaining a plurality of light-emitting semiconductor devices,  
mounting said light-emitting semiconductors to said primary heat sinks by use of a light-reflective adhesive,  
mounting said primary heat sinks to said secondary heat sink,  
forming an enclosure,  
applying a conversion coating to the interior of said enclosure, said conversion coating being capable of converting a monochromatic light to white light, and  
locating said secondary heat sink within said enclosure.

58. (newly added) A semiconductor light source for providing illumination visible to humans of a physical space used by humans, the semiconductor light source being made in accordance with the process of claim 37, 45, 49, 50, 51, 54, 56 or 57.